

OPTICAL SYSTEM ANALOG TO DIGITAL CONVERTER

Patent Number: JP57176026
Publication date: 1982-10-29
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Requested Patent: JP57176026
Application Number: JP19810059666 19810422
Priority Number(s):
IPC Classification: G02F7/00
EC Classification:
Equivalents:

Abstract

PURPOSE:To obtain a high speed and high reliability by using an electrooptic deflecting element and a photodetector which obtains a digital signal according to a photodetection position.

CONSTITUTION:Luminous flux from a light source 1 such as a laser diode is shaped by a cylindrical lens 2 into a beltlike beam, which is deflected by an electrooptic deflecting element 3, driven by an analog signal to be converted into a digital signal, at a deflection angle which corresponds to the analog signal, so that the deflected beam is caused to illuminate a photodetector 9 through a prism 4 for deflection angle amplification. The photodetector 9 consists of lateral columns of photoelectric converting elements 16-19 which correspond to a binary code of a desired number of bits, and its photodetection surface is covered with an Al film 21 constituting a binary code pattern 20 by an opening part and a light shielding part, so the digital signal is obtained by the incidence of the beltlike beam[e.g. dotted line (a)].

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